

**IN THE CLAIMS:**

1. (Currently Amended) A system for producing a propagated signal, comprising:  
a means for encoding ~~an~~ a single element of data within a time period of said propagated signal, said time period divided into a group of time slots; and  
multiple pulses distributed in a predetermined manner among said group of time slots by pulse group keying to encode said single element of data.
2. (Currently Amended) The propagated signal as recited in Claim 1 wherein said single element of data is ascertainable by mapping.
3. (Original) The propagated signal as recited in Claim 1 wherein said time slots in said group are adjacent.
4. (Original) The propagated signal as recited in Claim 1 wherein said time slots in said group are not adjacent.
5. (Original) The propagated signal as recited in Claim 1 wherein said time slots have differing characteristics.
6. (Previously Presented) The propagated signal as recited in Claim 1 wherein said time period is divided into a group of sixteen time slots and a number of data states corresponding to more than fifteen bits of data can be encoded within said group.

7. (Currently Amended) The propagated signal as recited in Claim 1 wherein said single element of data is selected from the group consisting of:

- a header;
- an error detection message;
- a synchronization element; and
- a data message.

8. (Original) The propagated signal as recited in Claim 1 further comprising a plurality of said time periods.

9. (Previously Presented) The propagated signal as recited in Claim 8 wherein said time periods have differing numbers of multiple pulses.

10. (Original) The propagated signal as recited in Claim 8 wherein said number of time slots vary in said time periods.

11. (Currently Amended) A method of propagating a signal utilizing a means for producing a propagated signal, comprising:

forming an a single element of data within a time period of said signal, said time period divided into a group of time slots; and

distributing multiple pulses in a predetermined manner among said time slots by pulse group keying to encode said single element of data.

12. (Original) The method as recited in Claim 11 wherein said data is ascertainable by mapping.

13. (Original) The method as recited in Claim 11 wherein said time slots in said group are adjacent.

14. (Original) The method as recited in Claim 11 wherein said time slots in said group are not adjacent.

15. (Original) The method as recited in Claim 11 wherein said time slots have differing characteristics.

16. (Previously Presented) The method as recited in Claim 11 wherein said time period is divided into a group of sixteen time slots and a number of data states corresponding to more than fifteen bits of data can be encoded.

17. (Currently Amended) The method as recited in Claim 11 wherein said single element of data is selected from the group consisting of

a header;

an error detection message;

a synchronization element; and

a data message.

18. (Original) The method as recited in Claim 11 further comprising designating a plurality of said time periods.

19. (Original) The method as recited in Claim 18 wherein said groups have differing numbers of multiple pulses.

20. (Original) The method as recited in Claim 18 wherein said number of time slots vary in said time periods.